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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/477,764	01/04/2000	CHIA-HONG JAN	042390.P5488	9702

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EXAMINER

VU, HUNG K

ART UNIT	PAPER NUMBER
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2811

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/477,764

Applicant(s)

JAN ET AL.

Examiner

Hung Vu

Art Unit

2811

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 8,10-12,14 and 123-128 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8,10-12,14 and 123-128 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Request for Continued Examination*

1 A request for continued examination (RCE) under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicants' submission filed on 08/19/05 has been entered. An action on the RCE follows.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(c) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 8, 10, 12 and 124 – 128 are rejected under 35 U.S.C. 102(e) as being anticipated by Yu et al. (PN 6,271,563, of record).

Yu et al. discloses, as shown in Figures 1-5, a gate electrode comprising,

a gate layer (21 or lower portion of 20) disposed above a substrate (12), the gate layer having a substantially level upper surface (see Figure 2);

Art Unit: 2811

a conductive layer (upper portion of 20) disposed over the gate layer, the conductive layer extending beyond edges of the gate layer (see Figure 3);

thin first spacers (19) disposed in contact with opposite sides of the gate layer and below the conductive layer;

thick second spacers (22) disposed in contact with the thin first spacers, each thick second spacer having a width throughout its height which is constant in a direction parallel with the thin first spacers, wherein the gate layer, the thin first spacers, and the thick second spacers have approximately the same height.

Regarding claim 10, Yu et al. discloses the gate layer comprises polysilicon (see Figure 2).

Regarding claim 12, Yu et al. discloses the thin first spacers comprise oxide (see Figure 2).

Regarding claim 124, Yu et al. discloses the thin first spacers are at least as high as the thick second spacers (see Figure 1).

Regarding claim 125, Yu et al. discloses the thick second spacers are at least twice as thick as the thin first spacers (see Figure 1).

Regarding claim 126, Yu et al. discloses the thick second spacers are between 800 to 1500/ (within the range of 300 and 2000/) (see Col. 3, lines 35-37).

Art Unit: 2811

Regarding claim 127, Yu et al. discloses the thick second spacers are at least 800/ thick (see Col. 3, lines 35-37).

Regarding claim 128, Yu et al. discloses the thick second spacers are at least 800/100 times as thick as the thin first spacers (see Col. 3, lines 34-37).

3. Claims 8, 10 – 12, 14 and 124 – 125 are rejected under 35 U.S.C. 102(b) as being anticipated by Orlowski et al. (PN 5,741,736).

Orlowski et al. discloses, as shown in Figure 14, a gate electrode comprising,

a gate layer (34) disposed above a substrate (130), the gate layer having a substantially level upper surface;

a conductive layer (140) disposed over the gate layer, the conductive layer extending beyond edges of the gate layer;

thin first spacers (132) disposed in contact with opposite sides of the gate layer and below the conductive layer;

thick second spacers (74) disposed in contact with the thin first spacers, each thick second spacer having a width throughout its height which is constant in a direction parallel with the thin first spacers, wherein the gate layer, the thin first spacers, and the thick second spacers have approximately the same height.

Regarding claim 10, Orlowski et al. discloses the gate layer comprises polysilicon.

Art Unit: 2811

Regarding claim 11, Orlowski et al. discloses the conductive layer comprises polycide.

Regarding claim 12, Orlowski et al. discloses the thin first spacers comprise oxide.

Regarding claim 14, Orlowski et al. discloses the polycide comprises titanium salicide (TiSi<sub>2</sub>).

Regarding claim 124, Orlowski et al. discloses the thin first spacers are at least as high as the thick second spacers (see Figure 1).

Regarding claim 125, Orlowski et al. discloses the thick second spacers are at least twice as thick as the thin first spacers (see Figure 1).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 123 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yu et al. (PN 6,271,563, of record) in view of Matsumoto et al. (PN 5,726,479, of record).

Yu et al. discloses the claimed invention including the gate electrode, as recited in the rejection above. Yu et al. does not disclose the thick second spacers comprise nitride. However,

Matsumoto et al. disclose the thick spacers (7a) comprise nitride. Note Figures 1, 2(f) and 7-9 of

Art Unit: 2811

Matsumoto et al.. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the thick spacers of Yu et al. comprising nitride, such as taught by Matsumoto et al. since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

### ***Response to Arguments***

5. Applicant's arguments filed 08/23/04 have been fully considered but they are not persuasive.

It is argued, at pages 4-5 of the Remarks, that layer 20 of Yu et al. is a monolithic layer, thus there is no basis to regard an upper portion of the layer 20 as being the conductive layer and the lower portion of the layer 20 as being the gate layer. This argument is not convincing because the claimed language does not specifically state whether the conductive layer having the material different than that of the gate layer. Therefore, Applicants' claim 8 does not distinguish over the Yu et al. reference.

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung K. Vu whose telephone number is (571) 272-1666. The examiner can normally be reached on Tuesday-Friday 6:00-4:30, Eastern Time.

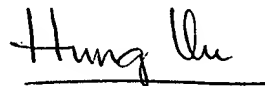
Art Unit: 2811

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Loke can be reached on (571) 272 - 1657. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Vu

October 13, 2005

A handwritten signature in black ink, appearing to read "Hung Vu", written over a horizontal line.

Hung Vu

Primary Examiner